Title: "Methods and Apparatus to Provide a Platform-Level Network Security System"
Inventors: Garg et al.
Attorney Docket No. INTEL/17848

OS	150
OS Loader	140
EFI	130
Platform Firmware	120
Hardware	110

<u>100</u>

FIG. 1

<u>200</u>

FIG. 2

Title: "Methods and Apparatus to Provide a Platform-Level Network Security System"
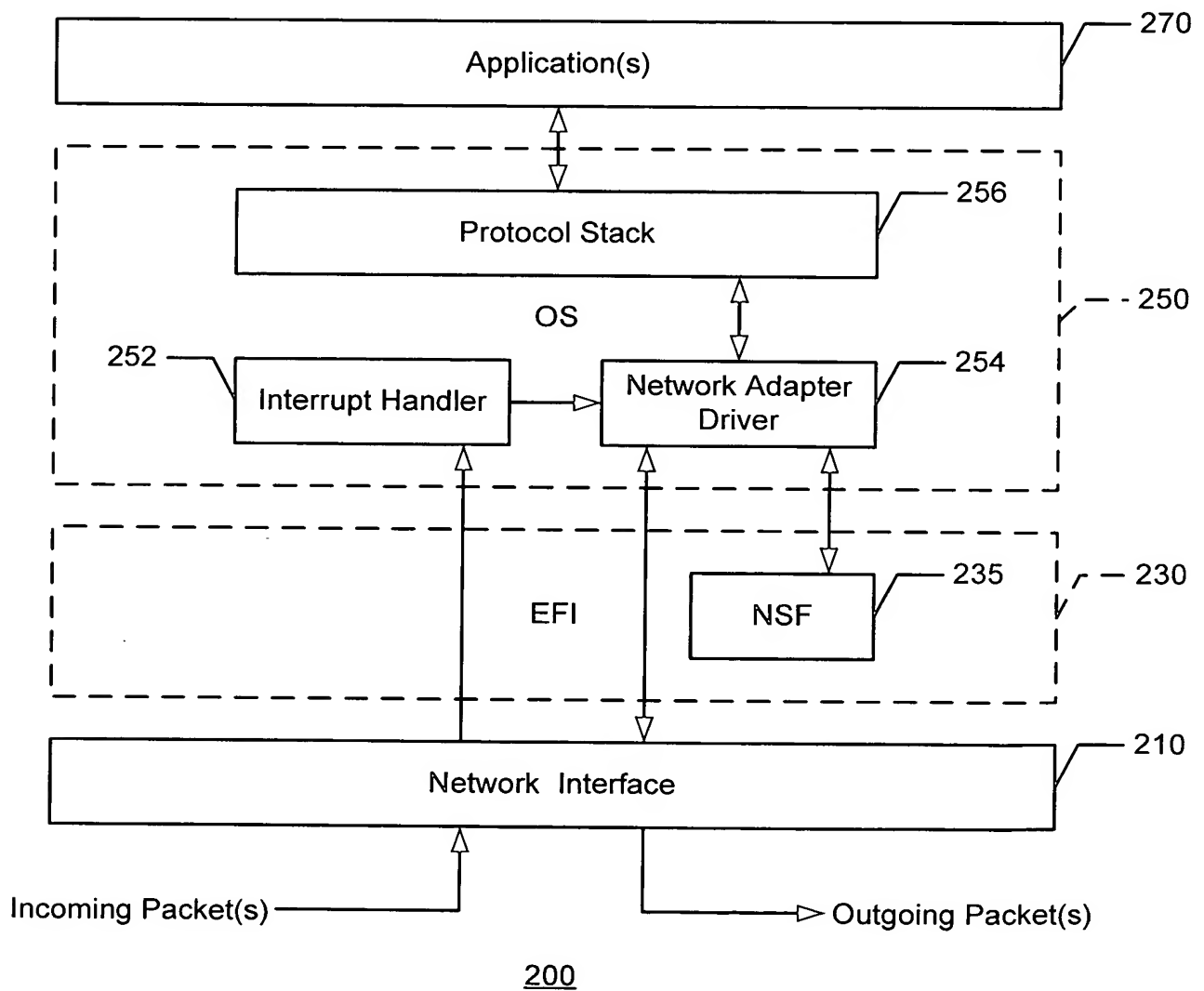Inventors: Garg et al.
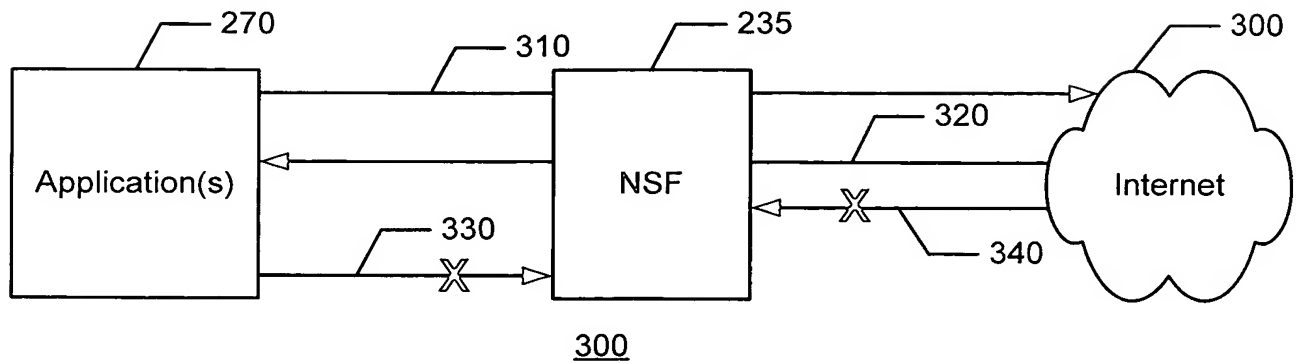Attorney Docket No. INTEL/17848

FIG. 3

```
// GUID definition
#define EFI_NETWORK_SECURITY_FIREWALL {DEADBEEF-XXXX-YYY ... ....}
// Revision Number
#define EFI_NETWORK_SECURITY_FIREWALL_REVISION 0x00010000
                                                              /‾ ‾ ‾ ‾ ‾ ‾ ‾ ‾ — 422
                                                            ↙

typedef struct _EFI_NETWORK_SECURITY_FIREWALL{
        UNIT64 Revision;
        EFI_NETWORK_SECURITY_FIREWALL_INIT           FwInit;
        EFI_NETWORK_SECURITY_FIREWALL_DEINIT         FwDeInit;
        EFI_NETWORK_SECURITY_FIREWALL_CHECK_PKT      FwChkPkt;
        EFI_NETWORK_SECURITY_FIREWALL_ADD_RULE       FwAddRule;
432 <    EFI_NETWORK_SECURITY_FIREWALL_DELETE_RULE    FwDelRule;
        EFI_NETWORK_SECURITY_FIREWALL_XXXXXXX        FwXxxxxx;
        EFI_NETWORK_SECURITY_FIREWALL_YYYYYYY        FwYyyyyy;
        ... ... ....,
        EFI_NETWORK_SECURITY_FIREWALL_CONFIG_DATA    ConfigData,
        } EFI_NETWORK_SECURITY_FIREWALL;

typedef struct _EFI_NETWORK_SECURITY_FIREWALL_CONFIG_DATA {
        UINT32 Rule ID;
        UINT32 SourceIPAddress;
        UINT32 DestinationIPAddress;

        ... ... .....
        } EFI_NETWORK_SECURITY_FIREWALL_CONFIG_DATA;
// define function pointers
EFI_STATUS
(EFIAPI * EFI_NETWORK_FIREWALL_INIT) (
        IN EFI_NETWORK_SECURITY_FIREWALL_CONFIG_DATA InitData
        );

EFI_STATUS
(EFIAPI * EFI_NETWORK_FIREWALL_INIT) (
        VOID
        );
```
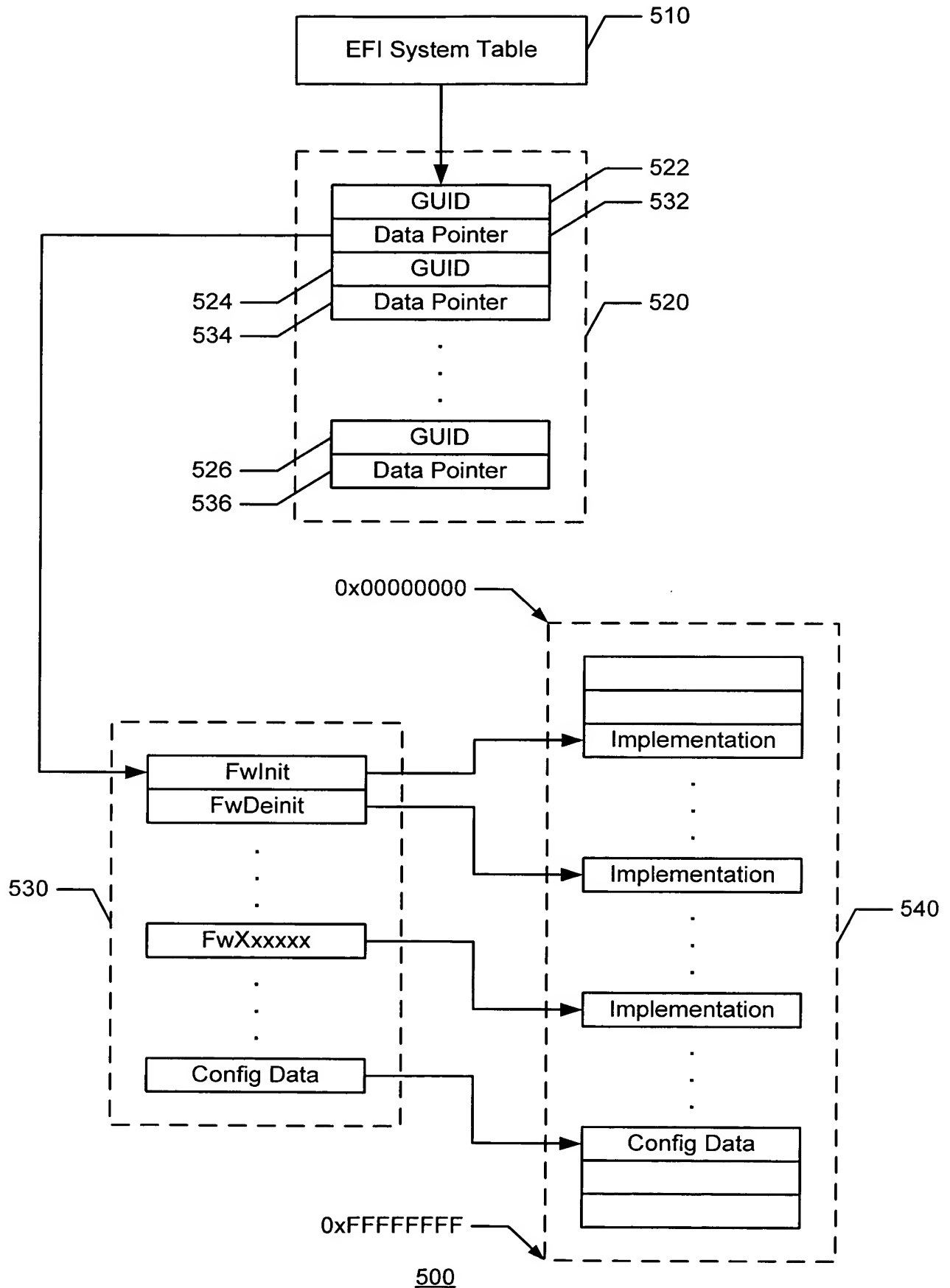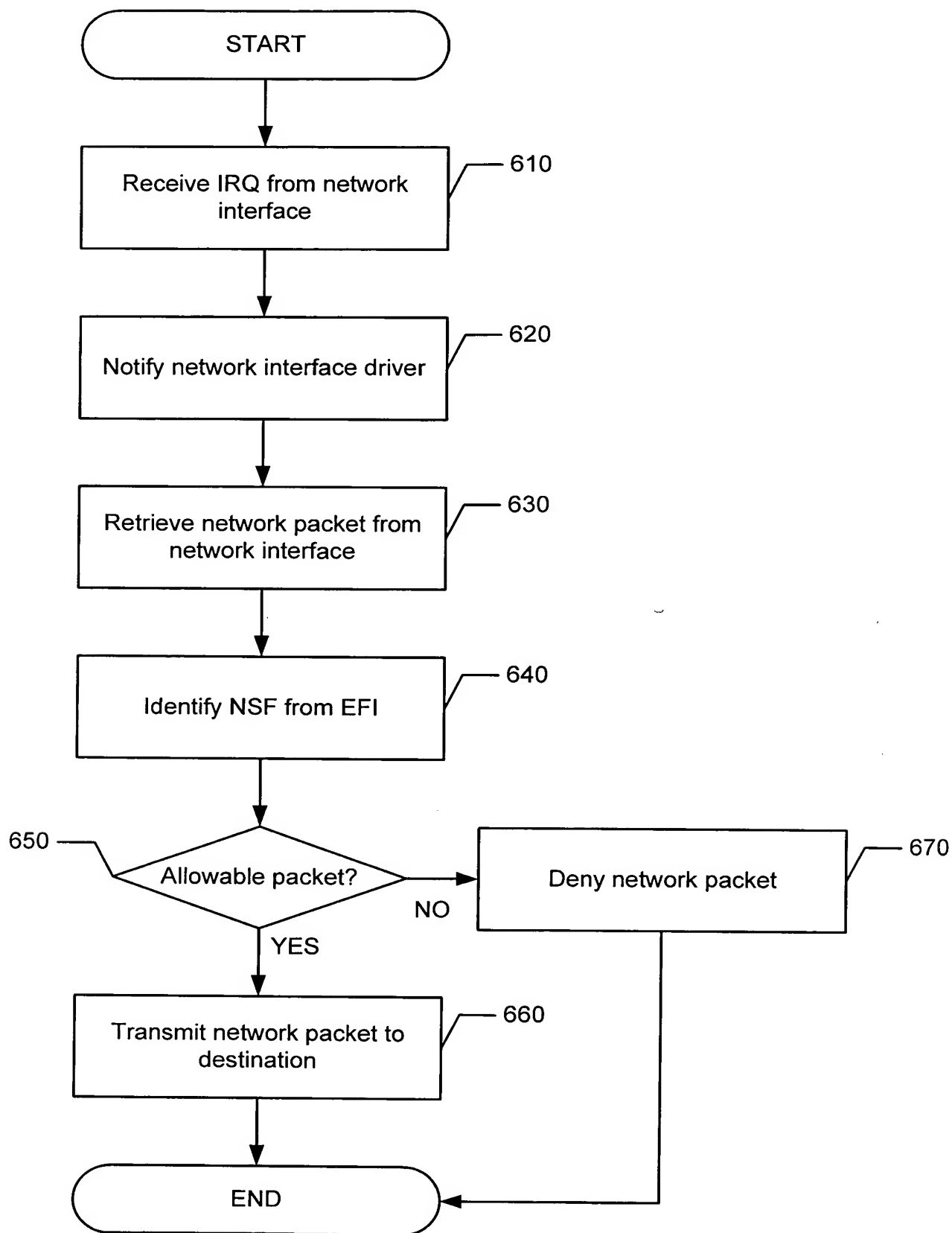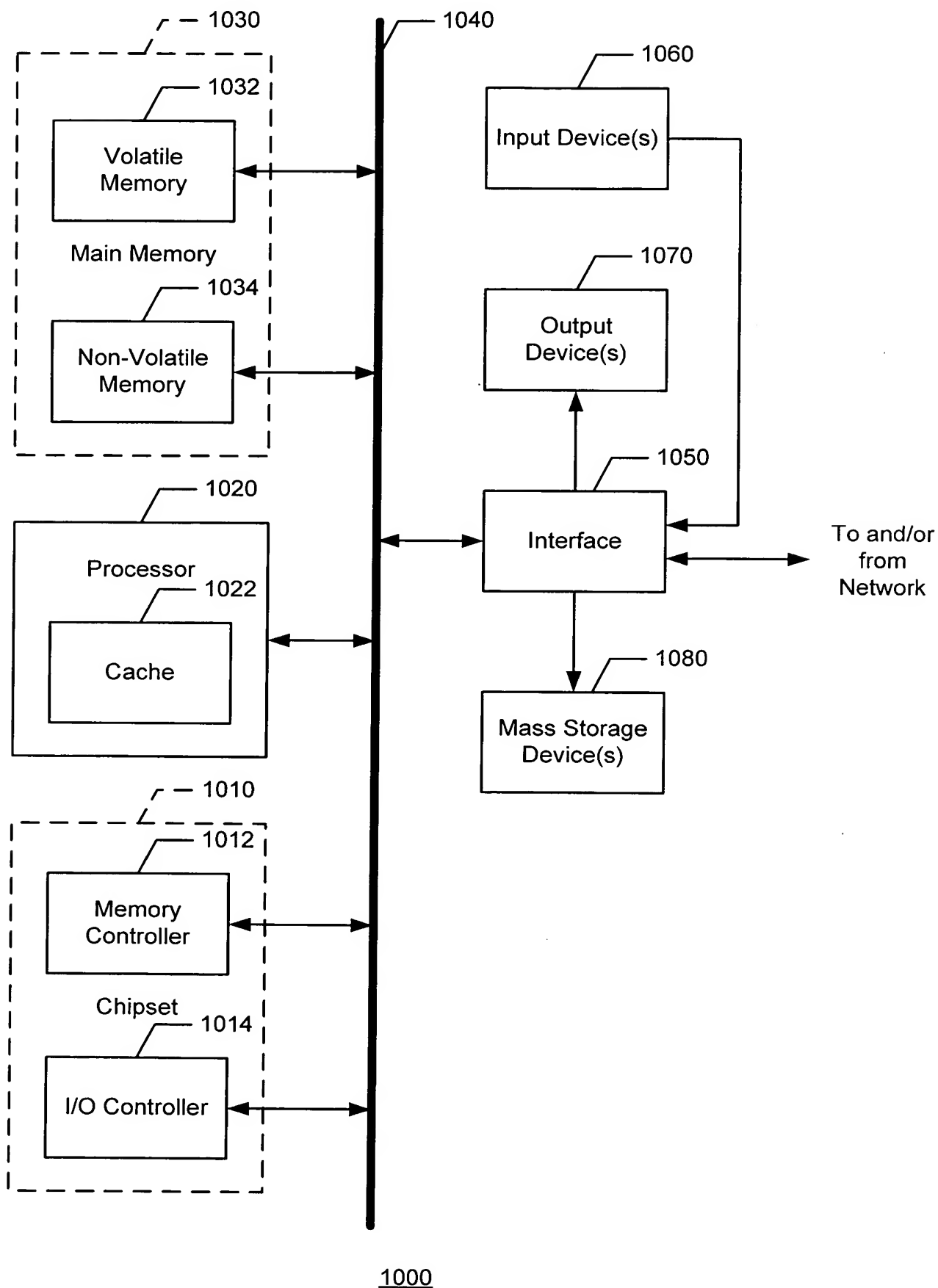
400

FIG. 4

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FIG. 5

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START

Receive IRQ from network interface — 610

Notify network interface driver — 620

Retrieve network packet from network interface — 630

Identify NSF from EFI — 640

650 — Allowable packet?

NO → Deny network packet — 670

YES

Transmit network packet to destination — 660

END

600

FIG. 6

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FIG. 7

1000